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Business surveys

Labour Statistics: Concepts, Sources and Methods

Reference period: 2023

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This section provides an overview of the survey methodology used in ABS labour-related business surveys. Business surveys are the primary source of data on labour costs, earnings, job vacancies and industrial disputes, all of which provide insight into the demand for labour in the Australian labour market.

Business surveys falling within the labour statistics program collect information from employing businesses on a range of topics. The program includes:

- Average Weekly Earnings Survey (/statistics/labour/earnings-and-work-hours/average-

weekly-earnings-australia/latest-release)

- Employee Earnings and Hours Survey (/statistics/labour/earnings-and-work-hours/employee-earnings-and-hours-australia/latest-release)

- Survey of Job Vacancies (/statistics/labour/employment-and-unemployment/job-vacancies-australia/latest-release)

- Industrial Disputes (/statistics/labour/earnings-and-work-hours/industrial-disputes-australia/latest-release)

- Wage Price Index (/statistics/economy/price-indexes-and-inflation/wage-price-index-australia/latest-release)

- Survey of Major Labour Costs (/statistics/economy/finance/labour-costs-australia/latest-release)

For specific information each of these surveys, refer to the methodology pages for each statistical release.

Scope and coverage

The scope of ABS labour-related surveys varies across collections. Most ABS labour-related business surveys draw upon the ABS Business Register (ABSBR), which is sourced from the Australian Taxation Office's Australian Business Register (ABR). The scope of surveys which use the business register is restricted by the scope and coverage of the register itself (as outlined in the next section). Surveys with broader or different scope are required to either supplement the business register, or use a sample that has been composed independently of the register by using relevant alternative data sources.

The following groups are generally excluded from labour-related business surveys:

- Employing businesses in the Agriculture, Forestry and Fishing industry (Australian and New Zealand Standard Industrial Classification (ANZSIC) Division A), in line with the International Labour Organisation (ILO) Resolution from the Twelfth International Conference of Labour Statisticians 1973. Given that "hired labour constitutes only a minor part of total labour input" in this industry, it would be disproportionately costly to survey a sufficient number of these businesses to obtain a sample of employees to adequately represent this industry.

- Private households employing staff (ANZSIC subdivision 96). Not all private households employing staff are required to register with the Australian Taxation Office (ATO), and as a result of this there is incomplete coverage on the business register and these units are excluded.

- Foreign government representation in Australia (ANZSIC class 7552). Practical collection difficulties and the low numbers of Australian employees involved have resulted in the exclusion of this industry group from the labour-related business surveys.

- Members of Australian permanent defence forces.

- Employing organisations located outside Australia.

ABS business register

The ABSBR is a list of businesses and organisations operating in Australia, and is based on the ABR. Organisations are included on the ABR when they register for an Australian Business Number (ABN). The ABSBR is used to create frames for the various business surveys run by the ABS and consists of two populations; the profiled population, and the non-profiled population. Organisations which are considered sufficiently complex and significant are included in the profiled population. They are structured according to the ABS Economic Units Model (ABSEUM), using information provided by the organisations. Organisations in the non-profiled population have less complex structures, and are based largely on ABR information.

Statistical units

Statistical units are used to represent one member of the population being surveyed. Statistical units on the ABSBR are based on the ABSEUM. The ABSEUM (see Figure below) has four statistical unit levels that are commonly applied in collections: the Enterprise Group; the Legal Entities that belong to that group; the Type of Activity Units that these legal entities carry out; and the location where these economic activities take place.

- Enterprise Group (EG) covers all the operations within Australia's economic territory of legal entities under common control.

- Legal Entity (LE) covers all the operations in Australia of an entity which possesses some or all of the rights and obligations of individual persons or corporations, or which behaves as such in respect of those matters of concern for economic statistics. Examples of legal entities include companies, partnerships, trusts, sole (business) proprietorships, government departments and statutory authorities. In most cases the LE is equivalent to a single ABR registration.

- Type of Activity Unit (TAU) comprises one or more legal entities, sub-entities or branches of a legal entity that can report productive and employment activities. TAUs are created if accounts sufficient to approximate Industry Value Added (IVA) are available at the ANZSIC subdivision level.

- Location is a single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

ABS Economics units model
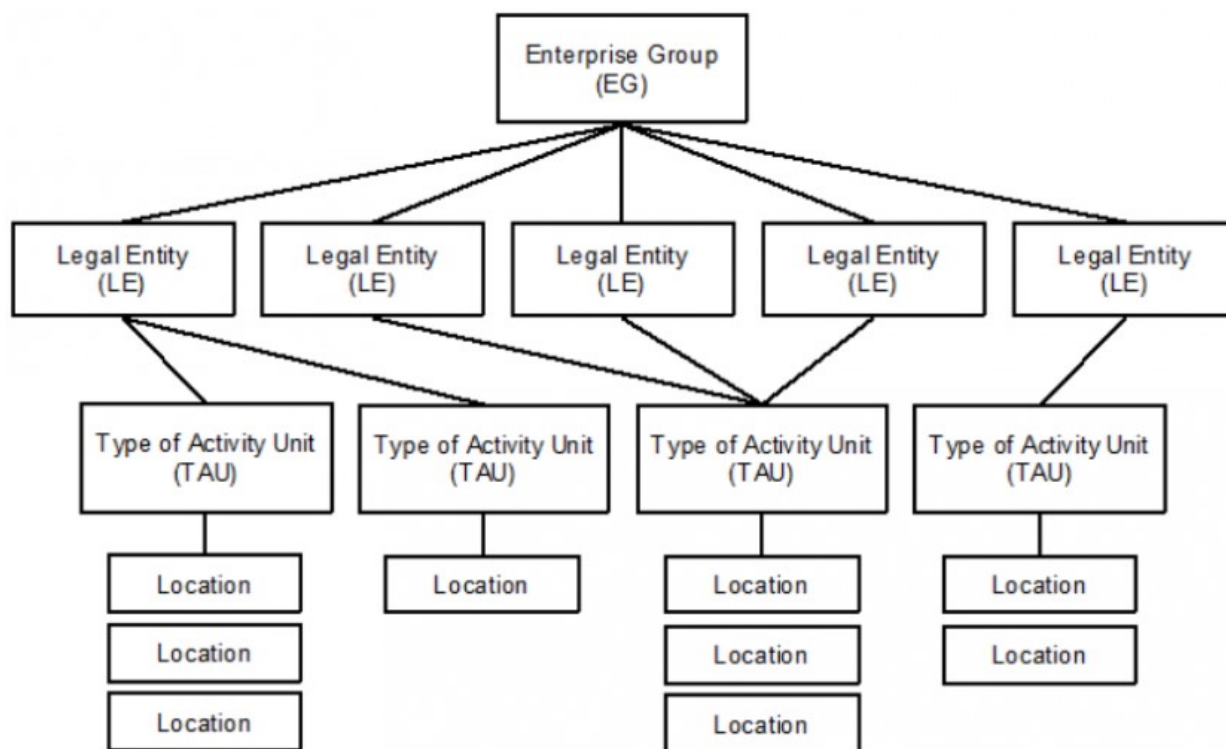
Sample design and selection

Business surveys undertaken by the ABS fall under two categories: probability sample surveys (information is collected from a random sample of units on the frame), and censuses (information is collected from all units on the frame). With the exception of the Industrial Disputes collection, all labour-related business surveys are probability sample surveys which construct their frame from the ABSBR. The Industrial Disputes collection aims to be a census of all stoppages, and businesses involved in these stoppages are identified through media monitoring and observation of disputes from multiple sources (see the section: Industrial Disputes Collection for more details).

When a sample is selected for an ABS business survey, a survey frame must first be drawn from the ABSBR. From that point, the survey frame is then divided (stratified) into groups with similar characteristics, known as strata. The stratification variables typically used in the labour-related business surveys include: state, industry and employment size. The sector (public/private) stratification variable may also be used in some collections. After this, a small number of strata containing large or highly variable units are completely enumerated (CE). For each of the remaining strata, a simple random sample of units is selected. Some strata with a small population are also CE.

The Survey of Employee Earnings and Hours (EEH) uses an additional step in its sample selection that involves asking businesses to select a random sample of employees from their payrolls using instructions provided by the ABS.

There are various constraints placed on sample selection. For most labour-related business surveys, sample selection is constrained by ensuring that a portion of the sample that is not CE is rotated, and that small businesses will be in the sample for no more than 12 successive quarters. Some surveys are further constrained by ensuring that there is either minimal or maximal overlap with other surveys.

Sample sizes vary across ABS labour-related business surveys. In determining the required sample size for each survey, factors such as required accuracy level, expected level of non-response and total cost are taken into consideration.

Collection methods

Most ABS labour-related business surveys use an electronic collection methodology, using internet based survey forms. Data from some surveys are collected through the mail-out/mail-back or the telephone interview collection methodology.

In the event of non-response, intensive follow-up procedures that involve reminder letters and telephone contact are undertaken. 'Priority' intensive follow-up is used for a number of surveys; this involves targeting the following types of non-responding units:

- Units that contribute significantly to estimates;
- Newly selected units (e.g. in ongoing surveys); and
- Units that did not respond in the previous survey cycle.

Estimation

The estimation procedure is the application of weights to individual survey records so that the whole target population is represented (see the section: Overview of Survey Methods for more information). For ABS business surveys, the values of these weights are determined by one or more of the following factors:

- Probability weighting: the probability of selection for each survey unit.
- Ratio estimation: adjustments to agree with population benchmarks to correct for imbalances in the characteristics of the selected sampled units.
- New business provisions: adjustments to account for deficiencies with the survey frame, such as missing units.
- Adjustment for non-response: to correct for further imbalances in the characteristics of responding sample units.

Number-raised estimation and ratio estimation are the two main techniques used in surveys constructing their frame from the ABSBR. The labour-related business surveys use

stratum-by-stratum ratio estimation in strata where the population benchmark is known, and sampling efficiencies achievable are greater than with number-raised estimation. For strata where benchmark information is not available, number-raised estimation is used. See the section: Overview of Survey Methods for more information.

New business provisions are used in the estimation process to allow for births of businesses that have occurred up to the end of the survey reference period, but are not reflected on the survey frame. The calculation of the contribution of a new business is based on the average contribution of estimates of like units already on the frame. The Industrial Disputes collection is a census collection, and does not use weighting.

Editing and non-response adjustment

Editing is used in ABS business surveys to correct a number of non-sampling errors such as misunderstanding of questions or instructions, miscoding, non-availability of data, incorrect transcription, non-response and non-contact. Editing and further investigation is performed on estimates where anomalies have been detected. Significance editing is used by some labour-related business surveys, and reduces the overall editing load for the survey while maximising the effectiveness of editing on survey estimates. Significance editing involves assessing each survey value that requires editing against how greatly the survey estimate will be affected by using the unedited value. Only those values which will significantly affect the survey estimate are then edited.

Adjustments for non-response are made in the estimation process for all business surveys. There are two categories of non-response for ABS business surveys: partial non-response, and complete non-response. The extent to which values are imputed depends upon the amount and the quality of data already provided.

Imputed values can be derived for business surveys from three sources. The first source is data provided by the particular unit to be imputed for, which may be in the form of data previously provided or current data with partial response. The second source is similar to the first and involves the use of auxiliary information known about the unit, such as tax data from the frame. The third source is data provided by other units believed to have similar responses to the missing data. For complete non-responses and refusals in completely enumerated strata, all data items for the unit are imputed, preferably from previously provided data. Alternatively, where no useful information exists to use in imputation, the weights may be adjusted to account for non-response.

Two main methods for the treatment of outliers are used in ABS business surveys: Surprise Outliering and Winsorisation.